

## Convention of Biological Diversity, Biodiversity Indicators, and SSC

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The outcome of the United Nation's June 1997 Special Session of the General Assembly to review and appraise the implementation of Agenda 21 during the first five years after the Rio Earth Summit was sobering. But has really so little happened since Rio? During and after the Rio process, it became very obvious that actions have to happen at the local level. From this perspective, some spots of brighter light are detectable, for example the growing number of SSC members, their activities, and the implementation of action plans.

Whereas UNGASS dealt with the implementation of Agenda 21, a non-binding document, the Conference of the Parties (COP) is dealing with the implementation of the Convention of Biological Diversity (CBD), a binding document for the parties (nations). Therefore, there is at least on paper a legally binding instrument available to conserve biodiversity. Decisions of the COP furthermore refine activities to be taken by the parties; the Global Environment Fund (GEF) is providing a financial mechanism for its implementation; and the SBSTTA (Subsidiary Body for Scientific, Technical and Technological Advice) is the scientific and technological adviser for the COP. SBSTTA has turned into a forum that is considerably more focused than at its beginning, and NGOs are allowed as observers. The last meeting of SBSTTA (its third) was held in Montreal, in September 1997.

One item on the agenda, and recurring in various others, was the implementation of Article 7 of the CBD, which requests the parties to develop necessary mechanisms to inventory and monitor biodiversity from gene to species to ecosystem levels, and those that are of relevance for economic, health, or scientific reasons (i.e., not everything should be inventoried). To summarize and communicate the

implementation of Article 7, indicators are demanded that ideally should have a similar function and appeal as the Dow Jones Index, being attractive and understandable to politicians and their constituencies. Interestingly enough, SBSTTA recommended to the COP, within a core set of indicators, only one indicator that covers the species or gene level, involving the changes in numbers of threatened and extinct species. As IUCN's Red List is mentioned for its usefulness for definitions and its provision of an important set of species, SSC as key deliverer of this information might be an active provider of this information in the future.

What would that mean? SBSTTA's recommendations to the Conference of the Parties is quite clear on what matters the design of indicators at the national level (where the Convention operates) have to address:

- the way indicators relate to management questions
- the ability to show trends
- the ability to distinguish between natural and human-induced change
- the ability to provide reliable results (i.e., through the establishment of standard methodologies)
- the degree to which indicators are amenable to straightforward interpretation
- the question of baseline for measurement

It seems that individual Specialists Groups could address most of those questions for their animals or plants, and the Biodiversity Conservation Information System (BCIS) might

be of great help. But there are also some caveats. The biodiversity indicators have to be robust and reliable in order to be able to compete with other national indicators and policy plans. Therefore, standard protocols are needed not only to analyze existing data, but rather to include everything from data collection to the definition of indicators. That this is not an easy task is probably best illustrated by the extremely low number of existing sets of national biodiversity indicators, or the exceptional low number of taxa for which reliable population counts exist (e.g., the African elephant). The implementation of such a system will take time and is quite costly, but nevertheless necessary, if figures on endangered species should be taken seriously in the context of the undisputedly rapidly developing pressures on the global environment.

The challenge to the SSC is then to deliver such systems. Besides its ongoing activities, the SSC might develop a complementary program that aims at developing standard techniques to produce the necessary data for the proposed indicator on the number of threatened species. This would mean that for some groups, an effort should be made to develop standardized collecting techniques, to define

the intervals at which data should be collected, and most importantly, to build up the capacity to survey periodically.

The development of such collecting protocols will depend, on the one hand, on really collected (observed) data, but to a larger extent on predictive models for distribution and stratified sampling. Whereas the collecting data are species-specific, the simulation models are generally based on data, such as topography, rainfall distribution, or land cover classification, which are the same for all the groups. As personal computers get more and more powerful global data sets are longer and more accessible, and some predictive models on the distribution of plants and animals already exist, it might be a challenge for SSC to develop those tools for their own need (i.e., for the use of their Specialist Group).

The involvement of the SSC has a further advantage. Though above mentioned indicators are used at the national level, the global network of SSC has the unique chance to provide the global perspective on the status of the endangered species.

Finally, such an instrument would allow for the first-time application of IUCN's criteria of threat to geo-referenced data, collected in a standardized way. Only such a tool, complex as it is, will have an impact on politicians and their constituency in the long term. Indicators as part of the legally binding Convention of Biological Diversity seem to be an important tool to monitor its implementation, and with it to conserve the environment.

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